

AOS 441: Satellite and Radar Meteorology Spring 2017: Tentative Lecture and Lab Schedule

This schedule is for guidance only. Lecture and lab schedules may be adjusted to accommodate interesting or newsworthy weather events or unforeseen circumstances.

Date	Lecture Topic	Labs/Reading Materials
1/18	Course Overview, Survey, Introduction to Radars	
1/20	Basic Radar Principles	Rinehart Ch. 1-2
1/23		Lab 1: Intro to McIDAS V
1/25	No Class: Professor Travel (AMS)	
1/27	EM Propagation, Curvature, Refraction	Rinehart Ch. 3
1/30	Make-up Double Lecture: The Radar Equation, Reflectivity, The Rayleigh Approximation	Rinehart Ch. 4 & 5
2/1	Doppler Radar Principles	Rinehart Ch. 6
2/3	Interpreting Doppler Imagery	NSSL Doppler Guide
2/6		Lab 2: Reflectivity Imagery
2/8	Doppler Imagery	
2/10	Clouds and Rainfall	Rinehart Ch. 8
2/13		Lab 3: Rainfall
2/15	Graupel, Hail, and the Bright band	
2/17	Snowfall	
2/20		Lab 4: Severe Weather
2/22	Non-Meteorological Targets/Winds	Rinehart Ch. 9
2/24	Polarization I	Rinehart Ch. 10 and NWS Online DualPol Training
2/27		Lab 5: Non-Precipitating Echoes
3/1	Guest Lecture: Mobile Radars and Attenuation	
3/3	In Class: Radar Applet Exercise	
3/6		Lab 6: Polarization
3/8	Polarization II	
3/10	Satellite Radars	
3/13		Real-time Forecasting Lab
3/15	Principles of Satellite Orbits	
3/17	Sampling Strategies, FOV, Scanning	
3/18-3/26		BREAK
3/27	Possible Professor Travel – Class TBD	
3/29	In-class: Satellite Orbit Exercise	
3/31	Review of Radiative Transfer and Introduction to Remote Sensing	Petty Sections 6.1, 6.2, 11.1 and 11.2
4/3	Reflection	Petty Sections 5.2 and 5.3
4/5	Professor Travel	
4/7	Surface Property Retrievals	Petty Sections 8.1 and 8.2
4/10		Lab 7: NDVI
4/12	Emission-based Remote Sensing: Surface Temperature, Detecting Fires and Clouds	
4/14	Weighting Functions and Atmospheric Sounding	
4/17		Lab 8: MODIS Fire Detection
4/19	Professor Travel	
4/21	Professor Travel	Lab 9: AIRS Tropical Depression
4/24		Lab 10: SEVERI Cloud Properties
4/26	Scattering-based Remote Sensing: Cloud Properties	
4/28	Microwave Remote Sensing: Surface	
5/1		Lab 11: AMSR-E Sea Ice or Precipitation
5/3	Microwave Remote Sensing: Clouds	
5/5	Microwave Remote Sensing: Precipitation	

